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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,070	07/24/2001	Motoyuki Fujimori	U 013566-9	3280
7590		03/12/2007	EXAMINER	
Ladas & Parry		SEVER, ANDREW T		
26 West 61 Street		ART UNIT		
New York, NY 10023		PAPER NUMBER		
		2851		
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	03/12/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/912,070

Applicant(s)

FUJIMORI, MOTOYUKI

Examiner

Andrew T. Sever

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/2007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/9/2007 has been entered.

Drawings

2. The drawings were received on 1/9/2007. These drawings are acceptable.

Information Disclosure Statement

3. The information disclosure statement filed 1/9/2007 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed.

No copy of the WO06/27151 reference could be found. It appears that this may be a duplicate of the entry above it (WO96/27151). It has been crossed out on the signed form PTO-1449 and not considered. All other cited references have been considered.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 3, 9, 14, 15, 19 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Shiraishi et al. (US 6,394,608.)

With regards to applicant's claim 1:

Shiraishi teaches in figures 1, 2, and 9 a projector comprising:

An optical system including:

A light source (2) that emits a light beam;

A color beam splitting optical system (35 and 36) that splits the light beam from the light source into sub-beams of predetermined colors;

Electro-optical devices (3R, 3, and 3B) that modulate the color beams split by the color beam splitting optical system in accordance with image information;

A color beam combining optical system (35 and 36 (it is both a color beam splitting optical system and color beam combining optical system)) that combines the color sub-beams modulated by the electro-optical devices; and

A projection lens (4) that projects a resultant beam combined by the color beam combining optical system;

An open inner case (15 the area inside of it is open and as shown in figure 2 a lid (16) can be attached to close it from the outside world) to which optical components constituting the optical system are attached (at least the modulators 3R, 3, 3B as well as lens 24, and projection lens 4 are attached to the walls of the enclosure);

Vertically separable outer cases; (as depicted in figure 1 the outer cases comprises of two vertically separable case (that labeled 1 and that which has the label 11 pointing towards part of it));

An enclosure which is constituted by the inner case and the one of the outer cases; the open inner case being covered with said one of the outer cases so as to accommodate at least the color beam splitting optical system in the enclosure (as depicted in figure 9 the color beam splitting optical system is inside the enclosure and is attached to the floor of the enclosure, since it is clear that bottom outer case forms the floor of the entire projector, the outer case therefore meets the claim language of covering the inner case. (note this claim language does not preclude something else also covering the enclosure, which is not being acquiesced to being the case with Shiraishi.))

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With regards to applicant's claim 3:

Clearly the projection lens (4) is shown in figure 9 to be attached to the inner case as well as the outer case.

With regards to applicant's claim 9:

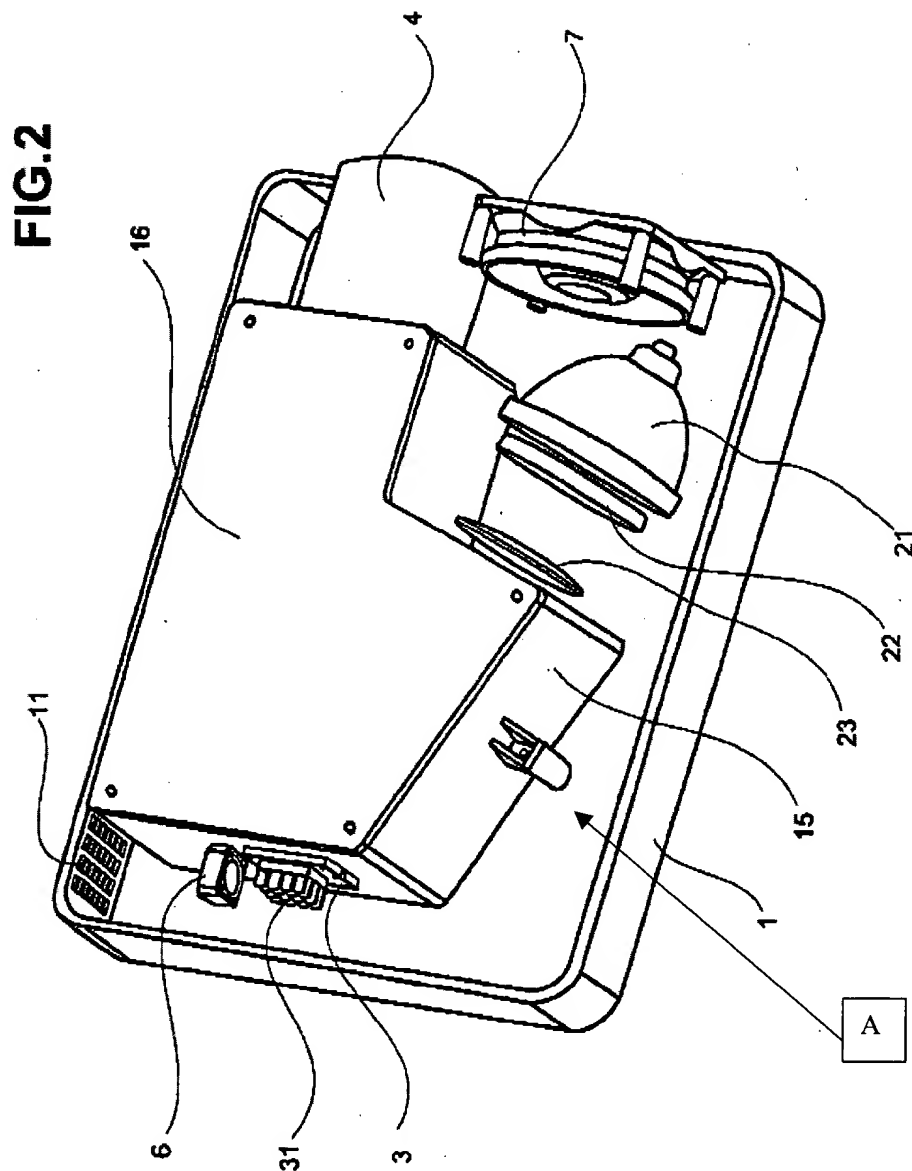
The mirrors (36 and 35) as well as the lenses appear to be fixed together by resilient clips (the parts holding them (boxes attached to their sides).

With regards to applicant's claim 14:

The bottom outer case is attached to the inner case and supports the at least the modulators (3R, 3B, and 3) since it supports the inner case (15) that they are attached to.

With regards to applicant's claim 15:

The part pointed too below and labeled A by the office is an attachment point that is inherently where a screw is used to fix the inner case to the outer case.



With regards to applicant's claim 19 and 20:

Shiraishi teaches in column 10 line 34-36 that the inner case (15) is made of metal.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4, 5, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi et al. as applied to claim 1 above, and further in view of Fujimori (US 5,806,952.)

Shiraishi as described in more detail above teaches a projector which among other things includes an inner case and outer case. Shiraishi, however, does not teach a thermal insulation material being interposed between these cases.

Fujimori teaches in figures 2 a projection type display device having an inner case (9) and an outer case (2). Fujimori teaches in column 7 lines 30-50 that it is advantageous to stack the power supply and driver board either on top or on the bottom of the inner case in order to make the projector more compact and more stable (it should be noted that top and bottom are relative terms) as is claimed in applicant's claims 10, 11, and 13. As taught in column 7 lines 41-46 it is necessary to provide a sheet of thermal insulation material between them (as is claimed in applicant's claims 4 and 5) so that the circuits can be made thinner and so they will not be damaged. Given that it is desirable to make the projector as compact as possible to reduce its size, and weight, and given it is desirable to provide protection for expensive electronic components such as driver boards and power supplies; it would have been obvious to one of ordinary skill in the art at the

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time the invention was made to include the insulation, driver board and power supply as taught by Fujimori on top of the inner case between the open inner case and the outer case so as to make the projector of Shiraishi as compact as possible.

With regards to applicant's claim 10:

It is inherent/obvious that a cable of some sort electrically connects the electro-optical device with the driver board that controls the electro-optical device as without communication between the two devices at least one of them would be useless.

With regards to applicant's claim 12:

Fujimori further teaches in figures 2A and 2B placing a fan (790) in a notch in the driver board for cooling the electro-optical devices underneath it. Since Shiraishi is silent about the driver board, and since such boards are highly sensitive to heat, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include such a fan in a notch in the driver board, so that the board would be maintained at a low temperature and function well.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi et al. as applied to claim 1 above, and further in view of Hashizume et al. (US 5,865,521.)

As described in more detail above Shiraishi teaches a projector which includes among other things a color beam combining optical system, however Shiraishi's color beam combining optical system is dichroic mirror based not prism based. Hashizume teaches

in figure 11 an embodiment where dichroic mirrors that are used for both beam splitting and combining as they are in Shiraishi are replaced with a prism (500). Hashizume teaches in column 22 lines 10-24 that this construction of a single prism unit for both color separation and combining as opposed to dichroic beam splitters and separate prisms, has the advantage of a shortened optical path length, large aperture ratio minimizing light loss, a bright projected image without a large aperture projection lens, less luminance variations, resulting a better uniform projected image. Accordingly given all of the sated advantages, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the two dichroic beam splitters of Shiraishi with a single prism based beam splitter as taught by Hashizume in figure 11 as it would result in a better projected image.

9. Claims 16-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi et al. as applied to claim 1 above, and further in view of Heintz et al. (US 6,056,405)

As described in more detail above Shiraishi teaches a housing which among other things includes a light source and an outer case. Shiraishi however does not teach that the light source is situated such that it is attached to a part of the outer case that is attachable or detachable from the outer case. Heintz teaches in figure 2 a projector, which includes a light source (54) that is covered by an access panel (see column 5 lines 20-22). Heintz teaches in column 6 lines 8-61 that the various features of the lamp and cavity and access insure proper alignment of the lamp. As discussed in column 1 lines 16-47 lamps in projectors frequently need to be replaced often by unskilled users. Since it is difficult to

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realign the lamps and optical components, the specific features of Heintz cavity and lamp are useful since the user does not need to realign parts. Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the lamp and outer case (cavity) taught by Heintz in the projector of Shiraishi as it would make it easier for a user to install a new lamp and maintain picture quality.

With regards to applicant's claim 17:

Heintz teaches in column 5 lines 40-47 that the housing for the light source (lamp) is made of resin) as it provides high temperature resistance, strength, and dimensional stability, and accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to use resin for the housing of the light source in the projector of Shiraishi as taught by Heintz as it allows for good performance.

With regards to applicant's claim 18:

See the with regards to applicant's claim 17 wherein the resin specified by Heintz is a insulator (insulation coating film.)

Double Patenting

10. Applicant is advised that should claim 19 be found allowable, claim 20 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing,

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despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 1,3-5, and 9-20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 6,742,900. Although the conflicting claims are not identical, they are not patentably distinct from each other because while the ‘900 patent lacks a limitation towards a color beam combining system a color beam combining system is inherent/obvious in a system that has a color beam splitting optical system and a single projection lens (the projection lens cannot project the images formed by the plural electro-optical devices if the images are not recombined), such color beam combining systems are well known as demonstrated at least by the Shiraishi et al. and Hashizume et al. references above. The ‘900 patent’s claim 1 also claims the enclosure differently than the present

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application however the enclosure comprises of an inner case and an outer case wherein the inner case is covered by the outer case and therefore that limitation is met by claim 1 of the '900 claims. Accordingly claims 1, 3, 4, 5, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20 of the present application are not patentably distinct from those of claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, and 15 of U.S. Patent No. 6,742,900 respectively as the differences discussed above would have been obvious to one of ordinary skill in the art at the time the invention was made.

Response to Arguments

13. Applicant's arguments with respect to claims 1 and 3-20 have been considered but are moot in view of the new ground(s) of rejection.

A new grounds of rejection as been prepared. Due to the length of time between the previous present office action and the present office action all references cited herein including those cited in previous office actions will be cited on the form 892.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 5,860,719 to Suzuki et al. teaches in figures 21(a) and 21(b) for example a projector where a separate inner housing contains the separation optical system.

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US 5,988,818 to Fujimori et al. teaches in figure 10 a projector having an inner case and optics mounted on what may be considered the bottom outer case (8b). Fujimori could be used to reject some of applicant's claims.

US 6,132,049 to Yamaguchi et al. teaches in figures 1 and 2 configurations of the prior art which appear to show some of the optical components mounted on the outer case.

Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AS



Andrew Sever